

*Danfoss*



**MCU**  
MOTION CONTROLS UNIVERSITY

## Drives Training

**VLT**<sup>®</sup>  
THE REAL DRIVE



# Training that fits your needs

We know that the greatest value to our customers comes when they know how to get the most out of our products. That's why we offer a range of training options to suit your needs. Whether it's at our facility, your facility, or even online, Motion Controls University provides you with what you need to get up and running—and stay that way.

By providing product and application training, we can help you minimize downtime by streamlining initial setup and heading off problems before they start. Through service training, we can help you maximize the life of your investment and ensure that in the event that something does go wrong, a qualified service professional is only steps away.







The following page lists our standard training modules and classes. When you attend a training session, the materials, demonstrator units, lab exercises and presentations are tuned to the specific needs of your business area. Each training session can be modified to address any of the key markets served by Danfoss North America Motion Controls:




- HVAC
- Water and Wastewater
- Industry

To ensure that participants get the most of their time spent in training, all courses are limited to a maximum of 16 students.

Danfoss maintains a rigorous certification program accredited through the International Association for Continuing Education and Training (IACET). Participants in training courses provided through NAMC-MCU can earn Continuing Education Credits (CEUs) upon successful completion of the course and a passing score on an exit exam.



Course	Description	Audience
<b>Sales Orientation</b>	<p>Divided into two sessions:</p> <ol style="list-style-type: none"> <li>1) An introduction to the basics of variable frequency drive technology and the available Danfoss solutions</li> <li>2) Details of the Danfoss product line, including key features, competitive comparisons and typical application programming. Highlighted products are selected from the following list, depending on the market of interest to participants (HVAC, Water or Industry):</li> </ol> <ul style="list-style-type: none"> <li>• VLT 6000 HVAC</li> <li>• VLT 8000 AQUA</li> <li>• VLT 5000 Process</li> <li>• VLT 5000 FLUX</li> <li>• VLT 4000 VT</li> <li>• VLT 2800</li> <li>• VLT MICRO</li> <li>• MCD Soft Starters</li> <li>• FCD 300</li> <li>• FCM 300</li> <li>• VLT HVAC Drive</li> <li>• VLT AQUA Drive</li> <li>• VLT AutomationDrive</li> </ul>	
<b>Applications</b>	<p>Covers the possible applications of one of the following VLT Series, depending on participants' market of interest (HVAC, Water or Industry):</p> <ul style="list-style-type: none"> <li>• VLT 6000 HVAC or VLT HVAC Drive</li> <li>• VLT 8000 AQUA or VLT AQUA Drive</li> <li>• VLT 5000 or VLT AutomationDrive</li> </ul> <p>Hands-on lab exercises allow participants to program drives for practice applications derived from real-world examples.</p>	
<b>Basic Startup, Installation and Troubleshooting</b>	<p>Focuses on the startup and diagnostic procedures for installing one of the following VLT Series, depending on participants' market of interest (HVAC, Water or Industry):</p> <ul style="list-style-type: none"> <li>• VLT 6000 HVAC or VLT HVAC Drive</li> <li>• VLT 8000 AQUA or VLT AQUA Drive</li> <li>• VLT 5000 or VLT AutomationDrive</li> </ul> <p>Hands-on lab exercises walk participants through the processes of commissioning and troubleshooting drives, and provide tools and suggestions for addressing the most commonly encountered issues.</p>	 
<b>Repair for Customers</b>	<p>Provides a component-level examination of one of the following VLT Series with a focus on diagnosing, repairing and rebuilding:</p> <ul style="list-style-type: none"> <li>• VLT 6000 HVAC or VLT HVAC Drive</li> <li>• VLT 8000 AQUA or VLT AQUA Drive</li> <li>• VLT 5000 or VLT AutomationDrive</li> </ul> <p>Hands-on lab exercises teach proper troubleshooting techniques and the ability to distinguish between system and drive problems.</p>	
<b>Service Station Certification</b>	<p>Reserved for new or existing Danfoss Service Partners, this course provides certification for factory-authorized technicians to perform warranty repairs. Participation in this course must be approved by the Danfoss Service Department.</p>	

	Sales personnel and individuals responsible for supporting sales of VLT Series products
	Customers and users of VLT Series products
	Factory-authorized service technicians responsible for the installation and repair of VLT Series products



## **Training at a Danfoss facility**

Our facilities in Loves Park, IL, and Milwaukee, WI, boast state-of-the-art training rooms and labs complete with VLT® Series drive units for hands-on experience in simulated applications. All courses include both classroom and lab time, so participants have the opportunity to program and work with drives up to 500 HP.

Each lab station is limited to two participants to ensure active participation. Evaluation testing is conducted at the end of each course to determine its success. Lunches and breaks are provided during the course. Hotel and transportation costs are the responsibility of each participant and his/her company.

Current training schedules can be found on our website, [www.namc.danfoss.com](http://www.namc.danfoss.com).



## Training at your facility

When coming to the classroom isn't an option, we bring the classroom to you. All courses include both classroom and lab time, where participants perform hands-on exercises using Danfoss VLT® Series products in simulated applications. Each lab station is limited to 2 participants to ensure active participation. Evaluation testing is conducted at the end of each course to determine its success.

Costs for field training sessions are based on classes held Mon-Fri; during 7am-5pm; local time. Sessions outside these times are subject to additional charges. Costs cover travel, instructor's lodging, shipping of demo equipment and participant materials. Customer is responsible for supplying appropriate training facility for classroom and hands-on sessions. It is recommended that lunch and breaks are also provided.

# Supplementary training options

In addition to our formal training courses, we also offer opportunities to learn about VLT® Series products on our website, [www.namc.danfoss.com](http://www.namc.danfoss.com). Just click on the "Training" link to access a wealth of knowledge delivered at your convenience.

We are routinely expanding our offerings of educational modules, so please visit our site often. If you have any comments or suggestions on modules you'd like to see, send us an e-mail with your ideas.



## Drives 101

Learn more about VLT Series adjustable frequency drives and their applications with independent study lessons that range from basic introductory material to detailed information. Each lesson includes a short examination that allows you to measure your own progress.

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## Diagnostics Online

Having problems analyzing a drive? Our website can walk you through the troubleshooting process and teach you how to avoid some of the more common issues encountered in drive programming and operation.

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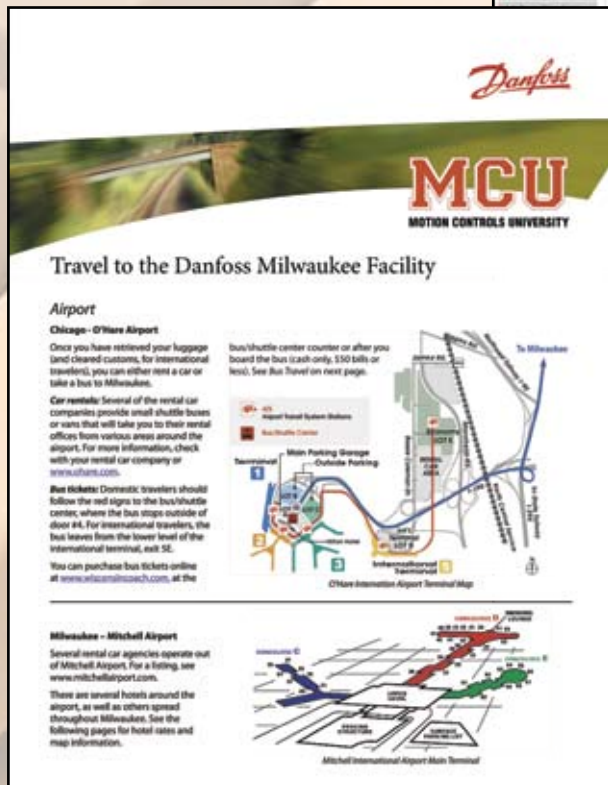
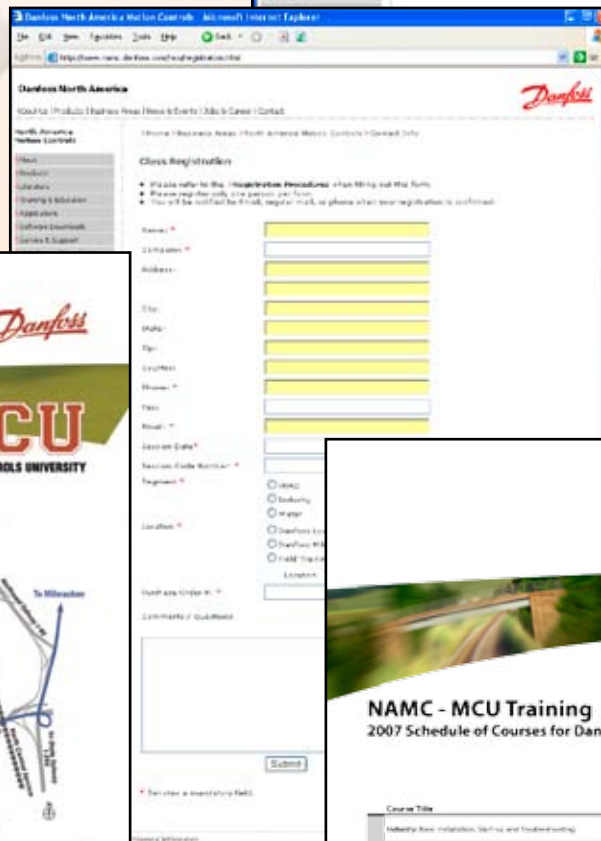
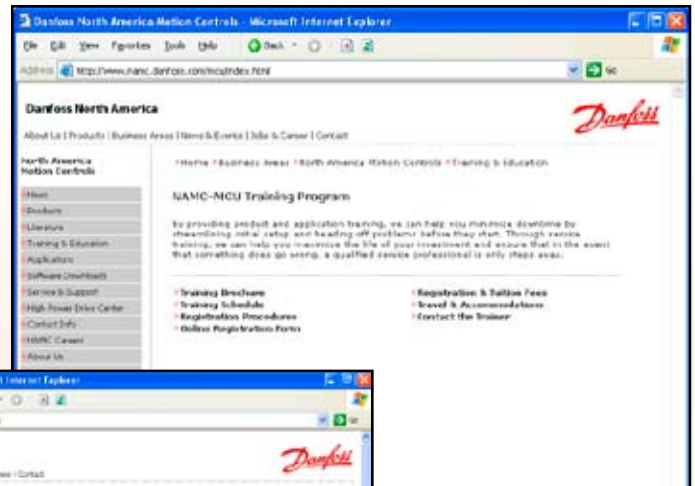
## Facts Worth Knowing About Frequency Converters

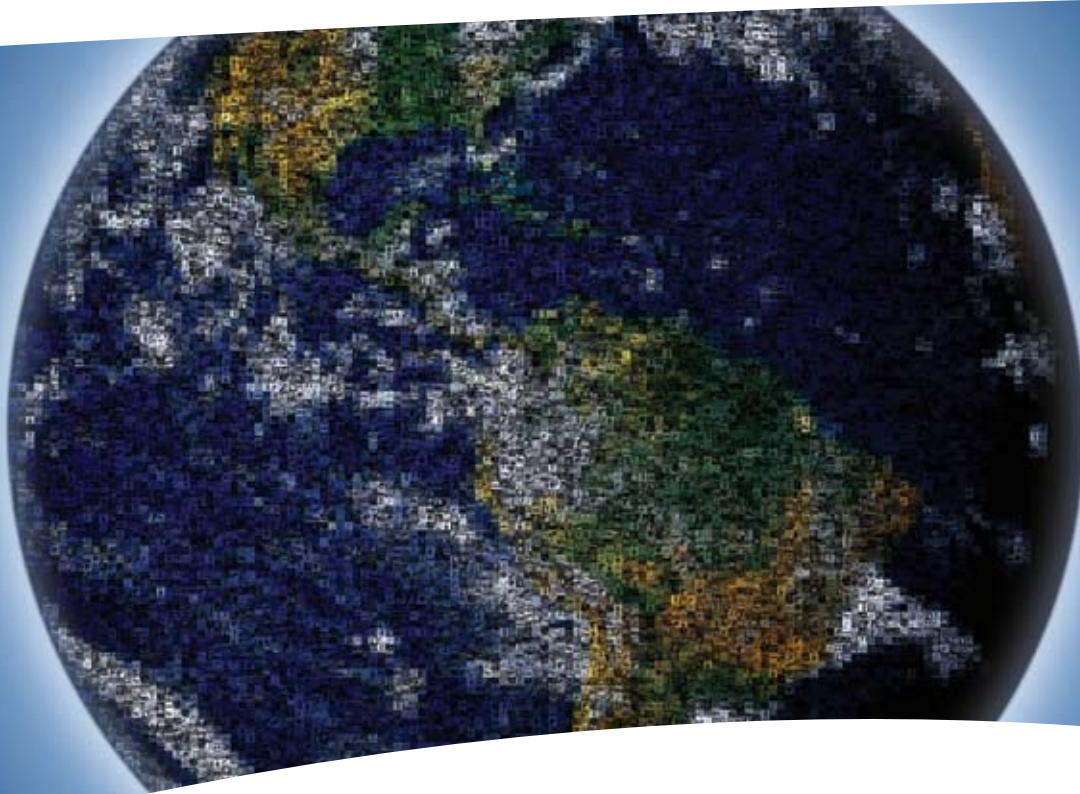
Danfoss has published a textbook that explains in detail how adjustable frequency drives work. From basic AC motor theory to the principles of Voltage Vector Control, you'll learn how adjustable frequency drives can save you money through greater energy efficiency.

# Registration and general information

To learn more about training options offered through MCU and to register for upcoming sessions, visit [www.namc.danfoss.com](http://www.namc.danfoss.com). Click on the "Training" link to access:

- **Current course schedules**
- **Online and printable registration forms**
- **Tuition pricing**
- **Directions to Danfoss facilities**
- **Training procedures and policy information**





## EnVisioneering

As a world leader in components and solutions, Danfoss meets our customers' challenges through "EnVisioneering." This approach expresses our views on engineering innovation, energy efficiency, environmental responsibility and sustainable business growth that create strong customer partnerships. This vision is realized through a global production, sales, and service network focused on refrigeration, air conditioning, heating and water, and motion control. Through EnVisioneering, Danfoss is Making Modern Living Possible.

Danfoss "EnVisioneering":

- Engineered solutions to improve performance and profitability
- Energy efficiency to meet higher standards and to lower operating costs
- Environmental sustainability to provide a financial and social payback
- Engaged partnerships to foster trust, reliability, and technological superiority

**North America Motion Controls**

**[www.namc.danfoss.com](http://www.namc.danfoss.com)**

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